Russian Mathematics 2014 vol.58 N2, pages 64-67

Definable relations in Turing degree structures

Arslanov M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

In this paper we investigate questions about the definability of classes of n-computably enumerable (c. e.) sets and degrees in the Ershov difference hierarchy. It is proved that the class of all c. e. sets is definable under the set inclusion âŠ† in all finite levels of the difference hierarchy. It is also proved the definability of all m-c. e. degrees in each higher level of the hierarchy. Besides, for each level n, n ≥ 2, of the hierarchy a definable non-trivial subset of n-c. e. degrees is established. © 2014 Allerton Press, Inc.

http://dx.doi.org/10.3103/S1066369X1402011X

Keywords

and phrases: computably enumerable sets, definable relations, high degrees, major subsets, Turing degrees of unsolvability